

Mineral Industry Surveys

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SULFUR IN DECEMBER 1999

During the month, production of combined Frasch and recovered elemental sulfur was 833,000 metric tons, according to the U.S. Geological Survey. December production was 10% higher than that of November 1999 and 2% lower than December 1998. Shipments of these combined products were 5% higher than those of November 1999. Ending stocks for December 1999 were 457,000 tons.

Import and export data for December 1999 were not available at the time of publication and will be published in the Sulfur in January 2000 Mineral Industry Surveys along with apparent consumption. Imports of recovered sulfur for November 1999 were 196,000 tons; exports were 40,000 tons. Imports of sulfuric acid for November 1999 were 128,000 tons; exports were 13,000

tons.

Significant adjustments have been made to the sulfur import data. Reports from the Bureau of the Census appear to underreport sulfur imports, especially material from Canada. The revised figures are based on Census information, data collected and published by the Alberta (Canada) Energy and Utilities Board (EUB) in its monthly production report, and information from other published sources. The EUB report is particularly valuable because the majority of Canadian sulfur is produced in that Province, and most of the Canadian sulfur that enters the United States comes from Alberta. When the data problems are solved, USGS will resume using Census data exclusively.

TABLE 1
SALIENT SULFUR STATISTICS 1/

(Thousand metric tons)

Period	Production				Shipments, all sources
	Frasch	Petroleum 2/	Natural gas 3/	Total 3/	
1998 year to date:	W	6,060	4,000	10,100	10,500
December	W	537	311	848	887
1999:					
January	W	507 r/	325 r/	832	829
February	W	464 r/	305 r/	768	752
March	W	518 r/	347 r/	865	823
April	W	517 r/	337 r/	854	843
May	W	511 r/	323 r/	834	838
June	W	477 r/	323 r/	800 r/	734
July	W	502 r/	328 r/	830	840
August	W	521 r/	308 r/	829	769
September	W	482 r/	285 r/	766	769
October	W	514 r/	310 r/	824	840
November	W	469 r/	288 r/	757 r/	759 r/
December	W	529 p/	304 p/	833 p/	799 p/
Total	W	6,010 p/	3,790 p/	9,800 p/	9,590 p/

p/ Preliminary. r/ Revised. W Withheld to avoid disclosing company proprietary data; included with "Natural gas."

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes a small quantity from coking operations.

3/ Includes data from Frasch producer.

TABLE 2
U.S. IMPORTS OF SULFUR 1/

(Thousand metric tons and thousand dollars)

Period	Canada		Mexico		Total, all countries 2/	
	Quantity	Value e/ 3/	Quantity	Value 3/	Quantity	Value e/ 3/
1998:	1,440	15,900	559	26,900	2,270	57,400
January-November	1,300 r/	14,400 r/	517	24,700	2,080 r/	53,000 r/
November	139	2,660	41	2,020	199	5,440
December	138	1,480	42	2,220	190	4,350
1999:						
January	117	952	55	2,760	190	4,470
February	138	1,690	37	1,990	275	6,790
March	161	1,970	40	2,160	225	5,020
April	160	2,210	39	2,100	213	4,870
May	157	1,560	60	3,280	269	5,710
June	147	1,990	38	2,040	222	4,740
July	134 r/	1,620	57	2,860	224 r/	6,000
August	107 r/	1,630	37	1,850	162 r/	4,400
September	103 r/	1,550	42	1,870	162 r/	4,210
October	102 r/	2,120	45	1,850	165 r/	4,360
November	104 p/	941 p/	37	1,780	196 p/	3,440 p/
January-November	1,430 p/	18,200 p/	487	24,500	2,300 p/	54,000 p/

e/ Estimate. p/ Preliminary. r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ May include other countries not listed.

3/ Declared customs valuation.

Source: Bureau of the Census; as adjusted by U.S. Geological Survey.

TABLE 3
U.S. IMPORTS OF SULFURIC ACID 1/

(Thousand metric tons and thousand dollars)

Period	Canada			Europe			Total, all countries 2/		
	Quantity	Sulfur content	Value 3/	Quantity	Sulfur content	Value 3/	Quantity	Sulfur content	Value 3/
1998:	1,550	508	47,800	47	15	400	2,040	667	58,600
January-November	1,430 r/	464	44,200	42	14	331	1,900	623	54,400 r/
November	111	36	3,390	(4/)	(4/)	26	158	52	4,130
December	133	43	3,610	6	2	67	142	47	4,200
1999:									
January	80	26	2,000	12	4	60	104	34	2,660
February	73	24	2,290	18	6	155	121	40	3,320
March	69	23	2,120	3	1	48	116	38	3,070
April	72	24	2,030	10	3	147	97	32	2,930
May	88	29	2,110	(4/)	(4/)	32	149	49	3,550
June	77	25	1,790	9	2	120	117	38	3,340
July	57	19	1,020	10	3	184	75	25	2,450
August	54	18	1,220	11	4	143	93	31	2,710
September	56	18	1,510	--	--	--	87	29	4,310
October	74	24	1,950	11	4	90	138	45	4,420
November	75	24	1,990	16	5	299	128	42	4,690
January-November	775	254	20,000	100	32	1,280	1,230	403	37,500

r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ May include other countries not listed.

3/ Declared customs valuation.

4/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 4
U.S. EXPORTS OF SULFUR AND SULFURIC ACID 1/

(Thousand metric tons and thousand dollars)

Period	Sulfur		Sulfuric acid		
	Quantity	Value 2/	Quantity	Sulfur content	Value 2/
1998:	898	35,400	155	51	18,100
January-November	806	32,400	143	49	17,200
November	34	1,440	11	4	860
December	92	3,020	13	4	914
1999:					
January	51	2,640	10	3	802
February	34	2,360	16	5	1,360
March	41	3,160	11	4	1,220
April	113	4,760	13	4	1,860
May	14	1,440	13	4	1,130
June	109	3,810	12	3	1,090
July	4	918	15	5	1,960
August	57	2,940	12	4	1,040
September	88	4,360	13	4	1,440
October	44	2,570	15	5	1,600
November	40	1,390	13	4	1,080
January-November	595	30,300	143	45	14,600

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Declared f.a.s. (free alongside ship) valuation.

Source: Bureau of the Census.

TABLE 5
U.S. CONSUMPTION OF SULFUR 1/

(Thousand metric tons)

Period	Domestic sources 2/	Imports	Consumption
1998:	9,610	2,270	11,900
January-November	8,060 r/	2,080 r/	10,100 r/
November	747 r/	199	946 r/
December	795 r/	190	985 r/
1999:			
January	778	190	968
February	718	275	993
March	782	225	1,010
April	730	213	943
May	824	269	1,090
June	625	222	847
July	836	224 r/	1,060 r/
August	712	162 r/	874 r/
September	681	162 r/	843 r/
October	796	165 r/	961 r/
November	719	196	915
January-November	8,200	2,300	10,500

r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Calculated as shipments minus exports.

TABLE 6
RECOVERED SULFUR PRODUCED AND SHIPPED IN THE UNITED STATES,
BY PAD (PETROLEUM ADMINISTRATION FOR DEFENSE) DISTRICT 1/

(Thousand metric tons)

District and source	December 1999 p/		November 1999		Total 1999 2/		Year to date 1998 2/	
	Production	Shipments	Production	Shipments	Production	Shipments	Production	Shipments
PAD 1:								
Petroleum and coke	23	24	15	12	223	215	233	231
Natural gas	4	4	4	4	45	45	47	47
Total	27	28	19	16	268	260	280	278
PAD 2:								
Petroleum and coke	68	68	62	62	807	805	889	891
Natural gas	5	5	4	5	49	50	55	56
Total	72	73	66	66	857	854	944	946
PAD 3: 3/								
Petroleum and coke	327	300	288 r/	294 r/	3,730	3,700	3,620	3,640
Natural gas 4/	202	193	193 r/	189 r/	2,630	2,500	2,840	3,290
Total 5/	529	493	481 r/	483 r/	6,350	6,200	6,460	6,930
PAD 4 and 5: 6/								
Petroleum and coke	111	111	104 r/	106 r/	1,250	1,240	1,320	1,300
Natural gas	93	95	87 r/	88 r/	1,070	1,040	1,060	1,060
California	97	98	90 r/	87 r/	1,070	1,060	1,100	1,080
Total	205	205	191 r/	194 r/	2,320	2,280	2,380	2,360
Grand total	833	799	757 r/	759 r/	9,800	9,590	10,100	10,500

p/ Preliminary. r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ May include revisions to prior months.

3/ Includes Puerto Rico and the U.S. Virgin Islands.

4/ Frasch production is included in the natural gas production to avoid disclosing company proprietary data.

5/ Includes data from Frasch producer.

6/ Quantities produced and shipped in California included in petroleum and natural gas. California total shown for information purposes only.

TABLE 7
COMPARATIVE SULFUR AND SULFURIC ACID STATISTICS 1/

(Million metric tons per year [annualized basis] and dollars per metric ton for period shown)

	1999			1998
	December	November	Year to date	total
Production	9.81 p/	9.21 r/	9.80	10.00
Shipments	9.41 p/	9.23 r/	9.59	10.50
Exports of sulfur	NA	0.49	0.65	0.90
Imports of sulfur:				
Canada	NA	1.26	1.56	1.44
Mexico	NA	0.45	0.53	0.56
Total 2/	NA	2.38	2.52	2.27
Exports of H ₂ SO ₄	NA	0.16	0.16	0.16
Imports of H ₂ SO ₄ :				
Canada	NA	0.91	0.85	1.55
Europe	NA	0.19	0.11	0.05
Total 2/	NA	1.56	1.34	2.04
Consumption: 3/				
Domestic sources	NA	8.75	8.96	9.61
Imports	NA	2.38	2.52	2.27
Total	NA	11.10	11.50	11.90
Sulfur export values 4/	NA	\$35	\$51	\$40
Sulfur import values: 4/				
Canada	NA	\$9	\$13	\$11
Mexico	NA	\$48	\$50	\$48
Average	NA	\$18	\$23	\$25
H ₂ SO ₄ export values 4/	NA	\$83	\$102	\$117
H ₂ SO ₄ import values: 4/				
Canada	NA	\$26	\$26	\$31
Europe	NA	\$19	\$13	\$9
Average	NA	\$37	\$31	\$29

p/ Preliminary. r/ Revised. NA Not available.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes other countries not listed.

3/ Because trade data were not available, December consumption was not determined.

4/ Average value per ton for most recent data available.